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universal scale of mental characteristics or abilities. The present investigation is in no way concerned with measuring or rating psychological reactions and characteristics. It is devoted to a qualitative analysis, more precisely: a qualitative comparative analysis, of the higher mental processes—perception, memory and thinking processes—of two primitive peoples. Its primary aim is to discover 'typical' psychological traits among groups of different culture, in other words, to study by means of a psychological experiment what Professor Bartlett calls the "preferred, persistent tendencies of groups" (3), p. 255).

During two anthropological expeditions to West Africa (Northern Nigeria) I had made some effort to combine anthropological work with experimental psychological studies. I had been working for some time among two neighbouring tribes, the Yoruba and the Nupe. These, living side by side, in the same material environment, under the same general conditions and at the same stage of civilization, yet present a picture of two entirely different, almost antagonistic cultures. This seemed an ideal situation for an investigation on the lines of such 'racial' or culture-psychology. Thus I carried out the same series of experiments among both groups, and I shall describe in the following pages some of the results of this comparative study.

II. The experiments

I propose to describe two sets of experiments which correspond very closely to the type of experiment used by Bartlett, namely experiments on *Description* and *Repeated Reproduction* of pictures and stories (3), p. 45 *et seq.*). The pictures were photographs of objects or scenes with which the experimental subjects were all familiar. Some of them were enlargements of my own photographs taken in the country, and some were taken from the *Illustrated London News* and other illustrated papers. The story which was used I composed myself. It was modelled on a native folk-tale of a type fairly common both among Nupe and Yoruba, but with a view to bringing out certain psychological test facts. The experiments were, for practical reasons, carried out in schools, namely in the Government Middle Schools in which teaching is done by native teachers and to a large extent in the vernacular. The two series which I am describing here were done with 20 students from each community, of the age of 15–18. All experiments were done in the vernacular; among the Nupe I myself carried out the experiments, as I was speaking the language fluently; among the other group, the Yoruba, I trained two teachers to carry out the experiments for me.

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the Nupe have nothing of the sort, their art is imageless, they have but crude wall paintings, and their strength lies in ornamental, decorative art. Also the Yoruba have a strong sense for pantomime and drama, for which again there is no parallel among the Nupe.

IV. The story experiment

The story was read to the students at 8 a.m., i.e. during their first class. At noon they were asked to relate the story for the first time (each boy by himself) and after one week for the second time. Each time the leader of the experiment wrote down the story as it was told. The story (in free translation) runs as follows:

> Long, long ago there were a man and his wife. They had two children, sons. When these sons had grown up, they saw a beautiful girl. They both made friends with her, and loved her very much. They loved her with one heart. But the girl did not love the elder brother, she only loved the younger. Thereupon the elder brother went to the younger and told him to give up the girl. He said: "I am the one to marry the girl for I am your elder brother." Thus he spoke. But the younger refused. They quarrelled a great deal till the elder brother became furious. When the night fell he went to the hut where the younger brother was sleeping and killed him with his sword, he killed him with one stroke. When the people heard the news they said: "He did an evil deed, God will revenge it." But the girl cried, she cried for twenty days and her heart was full of pain. When she had finished crying she left and went to another place. Nobody saw her again.

The responses which the contents and structure of the story evoke in the experimental subjects can be analysed under four or five different headings: There are points in the story which stress emotional reaction; points which bear on moral ideas; and points which appeal more specifically to reasoning, i.e. crucial points in the logical progress of the narrative. The text also contains certain set phrases and formulae; and, finally, a number of situational or circumstantial details. Obviously, these different categories in which the features of the narrative can be grouped must overlap to a certain extent. But it is just this overlapping, the application of different and even divergent aspects of interpretation to the same features, which will reveal to us most strikingly the different psychological attitudes with which the two groups approach the data presented in the narrative.

(1) *Set phrases and formulae*

The beginning and the end of the narrative, and one or two other phrases, represent more or less fixed formulae typical of all such stories. These phrases were in most cases repeated literally, both by Nupe and

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One day the elder said to the younger he should give the girl up, "because I am the elder". The younger brother said he would not give her up. Although the other was the elder he would not give her up. But the elder brother left the matter then, till night fell, then he went to the hut where the younger brother slept and killed him with a sword. When the girl saw this she cried for twenty days and her heart ached. The people who heard this said, what he had done was bad, God will revenge it. When the girl had finished crying she went to another place, nobody saw her again.

(Y 13) Long ago, there lived a man who had a wife. They had two children, sons. When they grew up they saw a girl who was very beautiful. They loved her, but the girl loved the younger more than the elder. When the elder brother realized this he said to the younger: "You must give up the girl, for I am your elder brother and I ought to marry her." When he said this the younger refused and they quarrelled so much that the elder brother took his sword, went to the younger, attacked him with his sword and killed him. When all the people heard this they said: "An evil deed has been done by the elder brother." They said: "Nobody should touch him, for God will judge." The girl cried for twenty days. Her sadness was so great that she left the town, and nobody saw her again.

V. The picture experiments

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I showed six pictures of different topics which varied in complication and distinctness. Each picture was exposed for about 10–15 sec. The experimental subjects were asked first to write down (in vernacular) what they had seen, after every picture. After a week's time they were asked to relate what they remembered, and this was written down by the leader of the experiment. The photographs represented:

(1) Two leopards in the bush.

(2) A black horse with a native groom in European garb, in an open field.

(3) A native in Mohammedan dress (which is common everywhere in Northern Nigeria), sitting on a table on which stands a native clay lamp.

(4) An oasis in the desert, showing a camel in front of a date-palm and two Arabs. (This was a rather dark and indistinct picture.)

(5) A mosque with a huge crowd of people in front. (A clear but somewhat complicated picture.)

(6) A bush fire (dark, very indistinct, in some respects corresponding to the familiar 'ink-blot' picture).

(1) *The background of experience*

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A first difference in the reaction of the two groups is due to the fact that in the description or interpretation of certain features in the pictures the different background of knowledge and practical experience characteristic of each group comes into play. Although the general cultural background of the two groups is the same, there exist naturally certain specific details of culture which are different in the two groups, and which to a certain extent enter into the description of the pictures. Thus quite a number of Yoruba called the clay lamp in the third picture a 'pump'. This

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VII. SUMMARY

1. The aim of this investigation was to study, by means of the psychological field experiment, the correlation between diversity of culture and psychological differentiation.

2. Two primitive groups were studied, two tribes in Northern Nigeria which, living under similar conditions, yet show marked differences in their culture.

3. The experiments were carried out with school boys of the age of 15–18. The selection of the subjects, however, insured that the experimental groups were representative of the culture at large.

4. The experiments examined the repeated reproduction of a narrative, and the description and remembering of a number of pictures. Both the narrative and the pictures represented a material with which the experimental subjects were thoroughly familiar.

5. The results show a marked difference in the responses of the two groups. In the story experiment one tribe laid stress on logical and rational elements while the other showed distinct appreciation of situational facts and connexions of time and place. In the picture experiment the response of the first group was meaning-oriented, the response of the second enumerative and appreciative of spatial arrangement.

6. Between the cultural differentiation and the psychological differentiation there exists close correspondence. The dualism of culture and psychological responses is incidental; the investigation reveals in fact three different psychological 'types' distributed in different proportion among the two groups.

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